AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior claims, and listings of claims, in the application:

1. (Currently Amended) A composition consisting essentially of ~~comprising~~ an isolated non-amyloidogenic mammalian prion protein and consisting of one of an adjuvant ~~antigen carrier or~~ and a delivery vehicle, wherein:

the isolated mammalian prion protein is selected from the group consisting of bovine, deer, elk, and sheep prion protein;

~~the composition is suitable for mucosal administration;~~ and

the composition elicits a humoral immune response that is ~~predominantly~~ associated with a mucosal IgA response and any concomitant immunoglobulin counterpart in other bodily fluids when introduced to a mammalian mucosal immune system.

2. (Cancelled)

3. (Previously Presented) The composition of Claim 1, wherein the isolated mammalian prion protein consists of an amino acid sequence which is a member of the group consisting of residues 93-156 of one of SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4 or SEQ ID NO:8; and residues 123-225 of one of SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, or SEQ ID NO:8.

4. (Original) The composition of Claim 3, wherein all amino acid residues are D-amino acids.

5-8. (Cancelled)

9. (Currently Amended) The composition of Claim 1, wherein the adjuvant ~~antigen carrier or delivery vehicle~~ is cholera toxin subunit B (CT-B)[[,]] or heat-labile enterotoxin (LT) ~~or~~ and the delivery vehicle is aluminum hydroxide.

10. (Original) The composition of Claim 9, wherein the prion protein is covalently attached to the cholera toxin subunit B.

11. (Withdrawn) A method of preventing or treating a prion disease, comprising mucosal administration of the vaccine of Claim 1 to a mammalian subject in need thereof.

12. (Withdrawn) The method of Claim 11, wherein the mammalian subject is a member of the group consisting of bovine, deer, elk, and sheep.

13. (Withdrawn) The method of Claim 11, wherein the mucosal administration is a member selected from the group consisting of oral, intragastric, intranasal, rectal and intraocular administration.

14. (Cancelled)

15. (Withdrawn) The method of Claim 11, wherein the subject is bovine and the prion disease is bovine spongiform encephalopathy.

16. (Withdrawn) The method of Claim 11, wherein the subject is deer or elk and the prion disease is chronic wasting disease.

17. (Withdrawn) The method of Claim 11, wherein the subject is sheep and the prion disease is scrapie.

18. (Withdrawn) The method of Claim 11, further comprising repeating the mucosal administration at least once.

19. (Withdrawn) The method of Claim 18, comprising repeating the mucosal administration within one month after the first administration.

20. (Currently Amended) A composition comprising an attenuated bacterium microorganism consisting of one of a *Shigella* strain and a *Salmonella* ~~*typhii* bacterium transfected spp~~ strain

transformed with a vector capable of expressing an isolated non-amyloidogenic mammalian prion protein, wherein:

the isolated mammalian prion protein is selected from the group consisting of bovine, deer, elk, and sheep prion protein;

~~wherein the composition is suitable for mucosal administration;~~ and

the composition elicits a humoral immune response that is ~~predominantly~~ associated with an IgA response and any concomitant immunoglobulin counterpart in other bodily fluids when introduced to a mammalian mucosal immune system.

21. (Cancelled)

22. (Previously Presented) The composition of Claim 20, wherein the prion protein consists of an amino acid sequence which is a member of the group consisting of residues 93-156 of one of SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, and SEQ ID NO:8.

23. (Original) The composition of Claim 22, wherein all amino acid residues are D-amino acids.

24-27. (Cancelled)

28. (Currently Amended) The composition of Claim 51 ~~20~~, wherein the *Salmonella* ~~spp~~ strain is of a strain selected from *Salmonella typhimurium* LVR01~~, LVR03~~ and SL3261, *Salmonella enteritidis* LVR02, and *Salmonella typhi* Ty21a~~ CVD915~~.

29. (Withdrawn) A method of preventing or treating a prion disease, comprising mucosal administration of the vaccine of Claim 20 to a mammalian subject in need thereof.

30. (Withdrawn – Previously Presented) The method of Claim 29, wherein the mammalian subject is a member of the group consisting bovine, deer, elk, and sheep.

31. (Withdrawn) The method of Claim 29, wherein the mucosal administration is a member selected from the group consisting of oral, intragastric, intranasal, rectal and intraocular administration.

32. (Cancelled)

33. (Withdrawn) The method of Claim 29, wherein the subject is bovine and the prion disease is bovine spongiform encephalopathy.

34. (Withdrawn) The method of Claim 29, wherein the subject is deer or elk and the prion disease is chronic wasting disease.

35. (Withdrawn) The method of Claim 29, wherein the subject is sheep and the prion disease is scrapie.

36. (Withdrawn) The method of Claim 29, further comprising repeating the mucosal administration at least once.

37. (Withdrawn) The method of Claim 36, comprising repeating the mucosal administration within one month after the first administration.

38-39. (Cancelled)

40. (Withdrawn) A method for preventing prion disease comprising administering a priming dose of the pharmaceutical composition of Claim 38 by an intradermal, subcutaneous, intramuscular, or intravenous route, and subsequently administering a booster dose of the pharmaceutical composition by an oral, nasal, intragastric, rectal, or intraocular route.

41-44. (Cancelled)

45. (Previously Presented) The composition of Claim 20, wherein the prion protein consists of an amino acid sequence which is a member of the group consisting of residues 123-225 of one of SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, and SEQ ID NO:8.

46. (Original) The composition of Claim 45, wherein all amino acid residues are D-amino acids.

47-50. (Cancelled)

51. (New) The composition of claim 20, wherein the attenuated bacterium microorganism is a *Salmonella* strain.

52. (New) The composition of claim 20, wherein the attenuated bacterium microorganism is a *Shigella* strain.

53. (New) The composition of any one of claims 3, 22, or 45, wherein at least one amino acid residue is a D-amino acid residue.

54. (New) A composition consisting essentially of an isolated non-amyloidogenic noninfectious mammalian prion protein and consisting of one of an adjuvant and a-delivery vehicle, wherein:

the isolated mammalian prion protein is selected from the group consisting of bovine, deer, elk, and sheep prion protein; and

the composition elicits a humoral immune response that is associated with a mucosal IgA response and any concomitant immunoglobulin counterpart in other bodily fluids when introduced to a mammalian mucosal immune system.

55. (New) A composition comprising an attenuated bacterium microorganism consisting of one of a *Shigella* strain and a *Salmonella* strain transformed with a vector capable of expressing an isolated non-amyloidogenic mammalian prion protein, wherein:

the isolated mammalian prion protein is selected from the group consisting of bovine, deer, elk, and sheep prion protein; and

the composition elicits a humoral immune response that is associated with an IgA response and any concomitant immunoglobulin counterpart in other bodily fluids when introduced to a mammalian mucosal immune system.